

Appl. No. 10/560,911
Amdt. dated July 22, 2009
Reply to Final Office action of May 11, 2009

REMARKS

Claims 13-19, 21, and 23-37 remain in this application.

THE FINAL REJECTION WAS INCOMPLETE

The examiner still has not explained in any of the rejections how the reference to Bessiere meets the limitations of the claims.

The examiner has continuously insisted, even though the claims clearly define structure which makes up a differential pressure amplifier, and that the structure of Bessiere, being a mechanical pump, meets the structure as recited in claims 13 and 37. Applicants have argued this point in each of the amendments dated February 18, 2009, December 1, 2008, September 25, 2008, and March 13, 2008, and yet the examiner still has not explained in any of the rejections how the reference to Bessiere meets the limitations of the claims. In particular, what elements of structure in Bessiere make up a pressure amplifier? A pressure amplifier is a **term of art** which has come to mean a structure which, by means of one or more pistons in one or more chambers, accepts an input fluid pressure and amplifies that input pressure to a higher output pressure. “Pressure amplifier” is a term of art which excludes a mechanical pump.

And more particularly, claim 13 recites a work chamber of a pressure amplifier. But it is not determinable from the rejection what the examiner considers to be a work chamber in Bessiere? And what element of Bessiere is a compression chamber of a pressure amplifier, which is recited in claim 13? And what element of Bessiere is a differential chamber of a pressure amplifier, which is recited in claim 13? Since these structural elements are recited in

Appl. No. 10/560,911
Amdt. dated July 22, 2009
Reply to Final Office action of May 11, 2009

the claims, these questions are critical to the rejections. Without answers to these questions the rejection is not clear. And yet the examiner has never explained in any of the Office actions just what structure of Bessiere constitutes these elements of structure.

While applicants do not believe that the following is a correct interpretation of claim 13, it may be that since these elements of structure are recited in claim 13 before the words “the improvement comprising”, the examiner is considering them to be part of the preamble only. But if this is the way that the examiner is interpreting the claims, it is pointed out that just after claim 13 recites “the improvement comprising” the claim goes on to recite a cylindrically shaped pocket or an encompassing groove in the “differential pressure chamber”. The claim goes on to recite the differential pressure chamber in other locations, and then ends by saying that the bore and valve subjects the differential pressure chamber to high pressure or relieves it of pressure and by so doing **“actuates the pressure amplifier”**.

If the examiner has been relying on such an interpretation of structure in claim 13, it is pointed out that at several locations the “body” of claim 13 refers to structure of the pressure amplifier, and thus there is no way that the various elements of a pressure amplifier can be considered as anything other than a part of what is being recited in claim 13.

In the Final Action of May 11, 2009 the examiner, in his response to arguments section, indicated that Bessiere, being a mechanical pump, is a form of a pressure amplifier. This simply is not so. First, a pressure amplifier has come to be understood as a term of art, which, when recited in a claim, limits the claim to include structure which is most easily explained by referencing applicants’ figures 1 and 2. It includes a housing with an interior which is divided into at least three separate chambers by at least one piston. The three

Appl. No. 10/560,911

Amdt. dated July 22, 2009

Reply to Final Office action of May 11, 2009

chambers in applicants' figures 1 and 2 are indicated as chamber 2 which is at a high pressure, chamber 4 which is the differential pressure or control chamber, and chamber 5 where the pressure is amplified well above the pressure in chamber 2 when pressure is released from control chamber 4. But Bessiere clearly does not have this structure, and the examiner's attempts to read this structure in Bessiere are clearly in error.

In the Office action the examiner rejected claims 13, 14, 23-27 and 29-37 as anticipated by Bessiere. However, it is again pointed out that Bessiere does not teach the structure as recited in these claims.

A mechanical pump such as Bessiere's is not a pressure amplifier. On page 2 fo the Office action, in the rejection of claims under 35 USC 102, the examiner has pointed to and numbered several elements of structure as if they were elements from Bessiere. But this is not the case, the numbered elements of structure the examiner has pointed to are numbers from applicants' own disclosure. In particular, and according to applicants' disclosure, element 2 is the work chamber, 5 is the compression chamber, and 4 is the differential pressure chamber. But the examiner has not explained what elements of Bessiere he is reading as anticipating these claimed elements. Thus, as the rejection is written, it is not at all certain what structure within Bessiere the examiner is considering to be the various elements of structure recited in applicants' claims.

It is not known from the rejection what element of Bessiere the examiner is considering to be the work chamber. The rejection says element 2, but in Bessiere 2 is a piston, not a work chamber.

Appl. No. 10/560,911
Amdt. dated July 22, 2009
Reply to Final Office action of May 11, 2009

It is also not known what the examiner is considering to be a compression chamber in Bessiere. The rejection makes it seem as if it is element 5, but in Bessiere element 5 is a piston, not a chamber.

And lastly, the examiner seems to call element 4 a differential pressure chamber. But in Bessiere element 4 is an inlet, it is not a chamber.

All of these elements of structure are recited in claim 13, and are recited to be part of the pressure amplifier. Thus, if the examiner is to maintain his rejection, it is requested that he reword it to make the rejection understandable, as suggested in MPEP 707.07(f), which states, in part,

“Where the applicant traverses any rejection, the examiner should, if he or she repeats the rejection, take note of the applicant's argument and answer the substance of it.”

A mechanical pump, whether it is operated manually, or by various other mechanical means, includes at least the following structure: a piston within a cylinder or some other form of expandible chamber, one or more valve elements, and a mechanical movement which moves to operate the expandible chamber. In the case of Bessiere this includes a cylinder 1 and a piston 2 which is physically moved by structure such as a cam on the engine, see Bessiere at column 2 lines 4-8. In opposition to this, a pressure amplifier is a **term of art**, and this term of art defines structure which is not the same as a mechanical pump. A pressure amplifier includes: a cylinder arrangement with piston structure inside it, wherein the cylinder and piston structure are arranged so that there are at least three expandible chambers, which in applicants' disclosure are recited as a work chamber, a compression chamber and a differential pressure chamber. The work chamber has a larger diameter than the compression

Appl. No. 10/560,911

Amdt. dated July 22, 2009

Reply to Final Office action of May 11, 2009

chamber so that when a fluid is pressurized into the work chamber, and pressure in the differential pressure chamber is properly controlled, i.e. released, the pressure of the fluid within the compression chamber will be greater than the pressure input into the work chamber. In other words, the pressure has been amplified.

An example of a pressure amplifier can best be seen in applicants' figures 1 and 2. And if these two figures are compared, the operation can be discerned via the labels attached to the lines which lead to the three chambers.

Thus, Bessiere's pump does not qualify as, nor does Bessiere's disclosure teach, a pressure amplifier, as is recited in the claims of this application.

By the amendment of February 18, 2009, claim 13 was revised so that structure which at one time was recited in the claim by reason of the claim using the term "pressure amplifier", ever since that amendment is specifically recited piece by piece within the claim.

In particular with regard to the examiner's rejection, Bessiere does not teach a differential pressure chamber which controls a pressure amplifier, and which, as of the amendment of February 18, 2009, is clearly recited in the claims.

And further, without teaching a differential pressure chamber, Bessiere cannot possibly include any teaching of a bore which connects the differential pressure chamber to a control valve so that the control valve can control the pressure in the differential pressure chamber and thus actuate the pressure amplifier.

Accordingly, the rejection of any of the claims under 35 USC 102 clearly was not proper, because the reference to Bessiere does not teach all of the structure which is recited in the claims.

Appl. No. 10/560,911
Amdt. dated July 22, 2009
Reply to Final Office action of May 11, 2009

As the examiner is probably aware, the structure disclosed in Bessiere is a pump operated by a cam on the engine. Bessiere does not in any way teach a pressure amplifier, and certainly does not teach a differential pressure chamber, a working chamber, nor does Bessiere teach a compression chamber.

And further, the claims go on to recite that a control line leads to a valve which actuates the pressure amplifier by subjecting the differential pressure chamber to pressure or relieves it from such pressure. Since Bessiere does not include any such structure, for this reason also the rejection under 35 USC 102 is not a proper rejection.

Moreover, contrary to what the examiner has indicated, area 6a is not a pocket or groove in the cylindrical surface of chamber 6 as recited in claims 18, 25 and 37. Area 6a actually stands out from, and is a projection from the cylindrical wall. Since the wall that forms area 6a stands out from the wall of the cylinder, it cannot be a pocket or groove in the cylindrical wall as recited in claims 18, 25 and 37.

The cylindrical wall which forms area 6a has a smaller diameter than does the cylindrical wall which forms area 6. With this relationship, the cylindrical wall of area 6a thus extends from the cylindrical wall which forms area 6. Thus area 6a is a protrusion from the cylindrical wall which forms area 6. It cannot properly be considered to be a groove or recess in the cylindrical wall of area 6.

Applicants believe that a proper consideration of area 6a is that it is a recess from the flat bottom wall of area 6. However, if the examiner still considers it to be a modification of the cylindrical wall of area 6, then as pointed out above, it is not a recess, but must be considered to be a protrusion from the cylindrical wall.

Furthermore, there is no structure of record in any of the prior art which would lead one skilled in the art to consider placing a pocket in the cylindrical wall of Bessiere's chamber 6, as recited in claim 25, "the improvement comprising a cylindrically shaped pocket or an encompassing groove in the cylindrical wall of the cylindrical chamber of the body, the bore discharging into the cylindrical shaped pocket or the encompassing groove and thus forming an intersection point".

Clearly if area 6a is compared to area 6, area 6a is not a pocket or groove with respect to the cylindrical wall of area 6. The wall that creates area 6a protrudes out from the cylindrical wall. Thus area 6a can only be considered to be a protrusion from the cylindrical wall, not a pocket or groove.

With regard to claims 21 and 33, the examiner has indicated that figure 1 of Bessiere indicates that the conduits 11 and 23 are of rectangular shape. Contrary to the examiner's position, the cross section as shown in figure 1 of Bessiere does not indicate that conduits 11 and 23 are rectangular. The showing in figure 1 of Bessiere is appropriate for cylindrical bored conduits as well as for rectangular conduits, as well as being appropriate for conduits of many other shapes. The showing in the figures of Bessiere is generic to all of these many shapes. And Bessiere includes no recitation in the specification as to what shape conduits 11 and 23 should be. Since Bessiere has no written disclosure with regard to what shape the conduits are, it is not a fair reading to assume, as the examiner seems to have done, that the conduits shown by Bessiere are rectangular. The showing of the conduits in Bessiere's drawings are generic to many shapes. Therefore it is inappropriate for the examiner to reject

Appl. No. 10/560,911

Amdt. dated July 22, 2009

Reply to Final Office action of May 11, 2009

claims 21 and 33, plus any claims which depend on them under 35 USC 102, as there is no teaching in Bessiere of any rectangular shape, especially not the conduits.

It appears from the examiner's comments on page on pages 9 and 10 of the Final Office action that perhaps he is considering that the rectangular shape of Bessiere to be coming from the fact that three sections of conduit 11 form a kind of rectangle. If this is fact how the examiner is reading the reference, it is pointed out that this is in complete incompatibility with the claimed language in that claims 21 and 33 recite that a single element is oval or rectangular.

On the other hand, if the examiner is saying that each of the conduits shown in Bessiere are rectangular in cross section, then he is reading structure into Bessiere which is not there. As pointed out in previous responses, the showing in Bessiere is appropriate for many different cross section of conduits, it is not limited to rectangular. Without a recitation in the specification, it is not proper for the examiner to assume that they are rectangular. The drawings do not show them as being rectangular, the drawings only show a cross section of the conduits. As shown in the drawings of Bessiere the conduits could be any one of many different cross sectional shapes. As further evidence of the above, it is requested that the examiner consider chamber 6, which Bessiere does disclose as being cylindrical. If the showing of chamber 6 is compared to the showing of conduits 11 and 23, the examiner will note that their showing has no difference, other than their relative sizes. And fitting within cylinder 6 is piston 5 which is shown by shading lines to be cylindrical. Thus clearly cylinder 6 is cylindrically shaped, and it stands to reason that the showing of conduits 11 and 23 are therefore also cylindrical. Clearly the showing is not limited to a rectangular cross section.

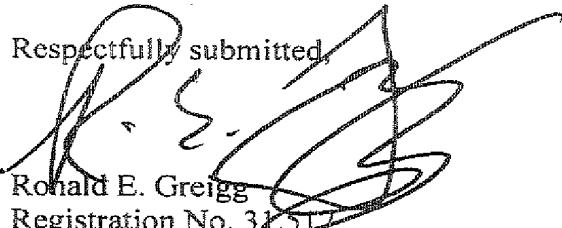
Appl. No. 10/560,911
Amdt. dated July 22, 2009
Reply to Final Office action of May 11, 2009

And moreover, most often conduits such as 11 and 23, which are formed within a more or less solid block of material, are formed by a boring process which makes cylindrical bores with circular openings. It would take an extra effort to make the conduits 11 and 23 of Bessiere rectangular. So for the examiner to somehow assume that they are rectangular when there is no reason for them to be rectangular, no teaching of their being rectangular, and making them rectangular would require extra effort and expense, making this assumption is simply not a fair reading and interpretation of Bessiere.

Clearly then, it is not proper for the examiner to have rejected claims 21 and 33 under 35 USC 102 since there is no teaching in Bessiere of the conduits being either oval or rectangular. With regard to claims 24 and 36, the examiner's statement of rejection is clearly wrong. In the device of Bessiere only one bore, 23, leads into chamber 6a. Bore 11 leads into bore 23. Thus Bessiere has no teaching of at least two bores leading into the pocket or groove, and so a rejection of these claims under 35 USC 102 clearly is not proper.

Appl. No. 10/560,911
Amdt. dated July 22, 2009
Reply to Final Office action of May 11, 2009

For all of the above reasons, whether singly or taken in combination with each other, entry of this response, and allowance of the claims are courteously solicited. Or in the absence of allowance of the claims, at least a clear and complete rejection is requested.

Respectfully submitted,

Ronald E. Greigg
Registration No. 31,517
Attorney for Applicants
Customer No. 02119

GREIGG & GREIGG, P.L.L.C.
1423 Powhatan Street
Suite One
Alexandria, VA 22314

Tel. (703) 838-5500
Fax. (703) 838-5554

REG/SLS/ncr

J:\Bosch\R306015\09-07-22, Reply to Final 5-11-09.doc